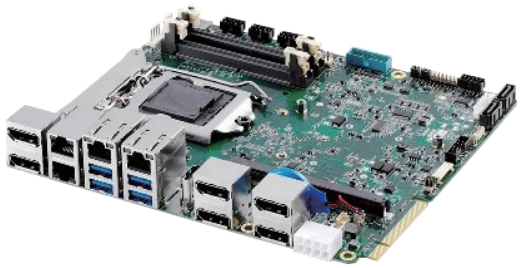
RSK-MXM series

Embedded Motherboard supporting MXM Graphics Module powered by Intel®

Features

- Mini-ITX embedded board
- Flexible hardware configuration
- Rich I/O interface
- GPU sufficient for AI computing
- Compatible with ROS/ROS 2
- ADLINK MXM Graphics module support (Type A/B, up to 120W)



Introduction

The ADLINK ROS Starter Kit, a ROS 2 development board in compact Mini-ITX form factor powered by 8th/9th Gen Intel® Core™ i7/i5/ i3 processor, features flexible connectivity with a wide range of I/O ports and support for AI computation platforms with the support of MXM graphics module. In addition, compatibility with open source ROS/ROS 2 supports full access to open-source application libraries for robot control, including vision, navigation, and motion control, for quick realization of ROS/ROS 2 function.

Optional Accessories

- **Ubuntu 18.04 LTS**
- **Neuron SDK**
- **ROS/ROS 2 Intel® Open VINO™ (TBD)**

Ordering Information

- **RSM-57**
  Embedded Motherboard supporting MXM Graphics Module with Intel® Core™ i7
- **RSM-55**
  Embedded Motherboard supporting MXM Graphics Module with Intel® Core™ i5
- **RSM-53**
  Embedded Motherboard supporting MXM Graphics Module with Intel® Core™ i3

Optional Accessories

- **Wireless Module**
  Intel® 2T2R AC9260 M.2 card (P/N: 29-E9260-2010)
- **MXM Module, EGX-MXM-P1000/P2000, EGX-MXM-P3000/P5000**
- **AC/DC Power Adapter**
  240W AC/DC power adapter with 8-pin ATX (P/N: 31-62164-0000-A0)

Specifications

Model Name	RSK-MXM series
MXM Support	Optional Accessory: EGX-MXM-P1000/P2000 EGX-MXM-P3000/P5000
Processor	Intel® Core™ i7-9700TE, 1.8GHz 12M Cache, 35W TDP, LGA1151, DDR4 2666MHz support(8C/8T) Intel® Core™ i5-8500T, 2.1GHz 9M Cache, 35W TDP, LGA1151, DDR4 2666MHz support(6C/6T) Intel® Core™ i3-8100T, 3.1GHz 6M Cache, 35W TDP, LGA1151, DDR4 2400MHz support(4C/4T)
Chipset	Intel® Q370 Chipset
Memory	Non-ECC DDR4 2666/2400MHz, 2x SO-DIMM, up to 64GB system memory
I/O Interface	
Display	1x HDMI, DSI
Ethernet	4x Intel GbE: 3x i210-AT + 1x i219-LM
Series Port	1x RS-232/422/485 pin header, 1x RS-232 pin header
USB	4x USB 3.1 Gen 1 Type A ports, 2x USB 3.1 Gen1 pin headers 2x USB 2.0 pin headers
Digital I/O	One 1x 10-pin/2.0mm wafer: DI/DO: 4 in and 4 out, one ground pin, One power pin(no power/5V/12V, 0.5A by BIOS selection)
Mini-PCIe	2x full size (one for CAN, one for WiFi or LTE)
M.2	1x M.2 E Key supporting 1630 or 2230 for wi-fi, BT module 1x M.2 B Key supporting 2242 or 2280 for SATA storage module 1x M.2 M Key supporting 2242 or 2280 for SATA/PCIe x4 storage module
PCB Edge Connector	1x PCIe x8 Gen PCB edge connector (data is from 2xPCIe x4 root ports, one set of clock, up to 50W) One PCIe power connector up to 12V @3.5A
eSIM	Optional
TPM 2.0	Optional
Storage Devices	
SATA	2x SATA 6Gb/s, one SATA power connector 2x SATA 6Gb/s signals via M.2 M&B Key connector Intel® RST RAID Support
Power Requirements	
DC Input	DC 12V +/- 5% input (Molex DC-in jack)
AC Input	Optional: 240W (12V @20A) AC/DC adapter
Mechanical	
Dimensions (WxDxH)	197.72(W) x 167.32(L) mm (7.784 x 6.587 inch)
Mounting	ADLINK proprietary mounting hole locations, ADLINK proprietary CPU cooler bracket
Environmental	
Operating Temperature	0°C~60°C (32°F~140°F, w/o MXM), 0°C~55°C (32°F~131°F, w/ MXM)
Operating Humidity	10%~90%, non-condensing
Storage Temperature	-40~85°C (-40°F~185°F)
EMC	EN 55032/EN 55024
Software	
SDK	Neuron SDK
Environment	Ubuntu 18.04 LTS
Middleware	ROS/ROS 2 Intel® OpenVINO™ (TBD)